

PATENT APPLICATION

Navy Case No.: 83,665

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: Ringeisen et al.

Serial No.: 10/068,315

Filed: 02/08/2002

For: GENERATION OF VIABLE CELL ACTIVE BIOMATERIAL PATTERNS BY LASER
TRANSFER

Examiner: Fuller, Eric

Art Group Unit: 1762

Honorable Commissioner of Patents

PO Box 1450

Alexandria, VA 22313-1450

May 25, 2004

RESPONSE TO FINAL REJECTION

Sir:

In response to the Office action of 03/25/2004, setting a three month shortened statutory period of response, please consider the following remarks.

Interview Summary

Applicants wish to thank the Examiner for granting the interview of 05/25/2004. In the interview it was agreed that Bills does not disclose the deposition of a composite and that the composite of Mayer is completely evaporated during the transfer. It was agreed that in the present invention, the transferred composite is not evaporated during the transfer. This is based on paragraph 0047, which states that volatilized matrix material can escape, meaning that rest of the composite is transferred without volatilization. All prior art rejections based on Bills would be withdrawn. It was agreed that the matrix material of Chrisey is not deposited, and so there is no transfer of a composite in Chrisey. The Examiner agreed to withdraw all double patenting rejections.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejected claims 1-8, 14-17, 19-25, and 36-39 under 35 U.S.C. § 103(a) as unpatentable over Mayer (U.S. 6,159,832) in view of Bills (U.S. 5,308,737).

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Claim 1 (2-8, 14-17, 19-25, and 36-39 dependent thereon) requires that a composite of a matrix material and a transfer material be present on the target substrate when the composite is exposed to laser energy that desorbs the composite. The composite is propelled toward a receiving substrate, where it is deposited in the form of a composite. Paragraph 0047 explains that volatilized matrix material escapes from the gap. Paragraph 0068 explains that evaporated interfacial layers of matrix material release the remaining composite material that the composite material desorbs from support and moves toward the receiving substrate. Thus, the specification explains that the part of the composite that is transferred is not evaporated and remains intact.

Bills discloses the laser transfer of a material that is not a composite. The target has a composite coating of a gas producing polymer and a transfer material, but the polymer is completely decomposed and not transferred. Mayers discloses complete vaporization of a metal composite by a laser, and resolidification of the vapor on a substrate (abstract). Neither reference discloses transfer of a composite that remains a composite throughout the process.

The Examiner rejected claims 9-13 under 35 U.S.C. § 103(a) as unpatentable over Mayer in view of Bills and further in view of Ross (U.S. 5,743,560), claim 18 under 35 U.S.C. § 103(a) as unpatentable over Bills or Mayer in view of Bills and further in view of Williams (U.S. 4,987,006), and claims 26-35 and 40-52 under 35 U.S.C. § 103(a) as unpatentable over Bills or Mayer in view of Bills and further in view of Baer (U.S. 4,987,006). In light of the allowability of claim 1, these rejections are moot.

Double Patenting

The Examiner rejected claims 1-39 for obviousness-type double patenting over claims 1-35 of Chrisey (U.S. 6,177,151).

Chrisey discloses a target substrate comprising a matrix material and a transfer material. A laser pulse causes transfer of the transfer material and loss of the matrix material. Although the target substrate can have a composite, the matrix material is vaporized, and so the composite is not transferred. It was agreed to in the interview of 05/25/2004 that this rejection would be withdrawn.

The Examiner provisionally rejected claims 1-39 for obviousness-type double patenting over claims 1-29 of copending Application No. 10/141,820 and claims 1-31 of copending

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Application No. 10/237,072. These applications claim transfer of a rheological fluid. It was agreed to in the interview of 05/25/2004 that this rejection would be withdrawn. However, Applicants are submitting terminal disclaimers over these applications, without admitting any obviousness of the claimed invention.

In view of the foregoing, it is submitted that the application is now in condition for allowance.

In the event that a fee is required, please charge the fee to Deposit Account No. 50-0281, and in the event that there is a credit due, please credit Deposit Account No. 50-0281.

Respectfully submitted,



Joseph T. Grunkemeyer
Reg. No. 46,746
Phone No. 202-404-1556
Office of the Associate Counsel
(Patents), Code 1008.2
Naval Research Laboratory
4555 Overlook Ave, SW
Washington, DC 20375-5325

Prepared by:
Joseph T. Grunkemeyer
Reg. No. 46,746
Phone No. 202-404-1556

CERTIFICATION OF FACSIMILE TRANSMISSION

I certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

5/25/04

Date



Joseph T. Grunkemeyer